

**REMARKS****I. STATUS OF THE CLAIMS:**

Claims 23 – 38 are pending. Claims 1 – 22 have been cancelled.

Claims 23 – 38 are new and have been added to reinstate the subject matter of previous claims 1, 4 – 8, 10 – 12, and 16 – 22.

**II. REJECTIONS OVER CITED REFERENCES:**

Previous claims 1, 4 – 8, and 10 – 12, 16 – 20, and 22 were rejected under 35 U.S.C. § 103(a) as being obvious over GB 1,052,118 (GB ‘118) in view of US 5,895,639 (Swain), and further in view of US 5,874,658 (Belter). More particularly, in the final Office Action mailed March 21, 2007, and Advisory Action mailed July 13, 2007, the Office reiterated its previous rejections of the previous claims, alleging that GB ‘118 and Swain each disclose a process for separating HF in the production of a fluoride-containing hydrocarbon by contacting the gaseous mixture with sulfuric acid and that it would have been obvious to one skilled in the art to use any known method, such as flash distillation or fractional distillation, or a combination of these methods to separate the HF from the sulfuric acid.

The Office also stated in these Actions that its rejections were being maintained over Applicants reply arguments and the Declarations by Hsueh S. Tung dated June 12, 2007, and December 8, 2006, which affirmed that the combination of flashing and column distillation produced an unexpectedly low sulfur level in the resulting anhydrous HF. The rejections were maintained allegedly because “there is no evidence on record to support the alleged unexpected results. . . . Applicants have not provided any comparative example to show that using low concentration sulfuric acid but without flash distillation would result in high level [sic] of sulfur impurities in the anhydrous HF product.” *Id.*

Applicants reassert the arguments in their entirety that were presented in the Reply submitted to the Office on June 13, 2007. In addition, Applicants submit herewith the Declaration of Hsueh S. Tung dated November 20, 2007, which describes experimental data demonstrating that, compared to a combination of flashing followed by

column distillation, column fraction alone produces a higher sulfur content in the anhydrous HF product. As noted in Mr. Tung's Declaration, Applicants have unexpectedly found that flashing an HF and sulfuric acid mixed stream and then fractionating the resulting HF distillate dramatically decreases the level of sulfur impurities in the HF product. One skilled in the art would *not* have known or expected that subjecting a mixture of hydrogen fluoride and dilute sulfuric acid to the *combination* of a flash distillation process followed by a fractionation process would dramatically reduce the amount of sulfur impurities in the process stream. Instead, one skilled in the art would have predicted that, based upon the boiling points of HF and sulfuric acid, column fractionation alone would remove substantially all sulfur impurities from an HF / sulfuric acid mixture. Thus, Applicant's discovery that the combination of flashing *followed by* fractionation is capable of dramatically decreasing the level of sulfur impurities compared to fractionation alone, was unexpected.

#### IV. CONCLUSION

In view of the Declaration by Hsueh S. Tung dated November 20, 2007, and the arguments for patentability reiterated herein, the present application is believed to be in condition for allowance and an early notice thereof is earnestly solicited. The Office is invited to contact the undersigned counsel in order to further the prosecution of this application in any way.

Respectfully submitted,

Dated: 11/20/2007

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